

Mobile Computing End-Term Practical



Name: Jaskirat Singh
Roll number: 05413202717
Section: CSE-1 (8th Semester)
Subject Code: ETIT-452

AIM: Design a program on “Social Networks” combating covid-19

Theory:

Android is a mobile operating system based on a modified version of the Linux kernel and other open source software, designed primarily for touchscreen mobile devices such as smartphones and tablets. Android is developed by a consortium of developers known as the Open Handset Alliance and commercially sponsored by Google. It was unveiled in November 2007, with the first commercial Android device, the HTC Dream, being launched in September 2008.

It is free and open-source software; its source code is known as Android Open Source Project (AOSP), which is primarily licensed under the Apache License.

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Libraries used:

Kotlin - First class and official programming language for Android development.

Coroutines - For asynchronous and more..

Flow - A cold asynchronous data stream that sequentially emits values and completes normally or with an exception.

Hilt - Jetpack Dependency Injection Framework

Android Architecture Components - Collection of libraries that help you design robust, testable, and maintainable apps.

LiveData - Data objects that notify views when the underlying database changes.

ViewModel - Stores UI-related data that isn't destroyed on UI changes.

ViewBinding - Generates a binding class for each XML layout file present in that module and allows you to more easily write code that interacts with views.

Room - SQLite object mapping library.

WorkManager - WorkManager is an API that makes it easy to schedule deferrable, asynchronous tasks that are expected to run even if the app exits or the device restarts.

Dagger 2 - Dependency Injection Framework

Retrofit - A type-safe HTTP client for Android and Java.

Coil-kt - An image loading library for Android backed by Kotlin Coroutines.

Material Components for Android - Modular and customizable Material Design UI components for Android.

The app simply loads data from API and stores it in persistence storage (i.e. SQLite Database). Data will be always loaded from local database. Remote data (from API) and Local data is always synchronized.

- This makes it offline capable.
- Clean and Simple Material UI.
- It supports dark theme too.

SRS:

1. Introduction

1.1 Purpose

The main objective of this document is to illustrate the requirements of the project Covid-Tracker. The document gives the detailed description of the both functional and non-functional requirements proposed by the client. The purpose of this project is to provide a friendly environment to maintain the details of books and library members. The main purpose of this project is to maintain easy circulation system using computers and to provide different reports.

1.2 Document Conventions

Entire document should be justified.

Font face- Times New Roman

- Title-
Font size-18px
- Subtitle-
Font size- 16px
- Body-
Font size-14px

1.3 Scope of Development Project

Covid Tracker is basically an application to aware user the total number of active, confirm, death, recover and total cases . It is especially useful for any information where modifications in the content can be done easily according to requirements. The project can be easily implemented under various situations. We can add new features as and when we require, making reusability possible as there is flexibility in all the modules. The language used for developing the project is because it is fast, robust and platform independent.

2. Overall Description

2.1 Product Function

The Covid tracker provides online real time information about the active, confirmed, death, recovered and total cases in the Country so that the user can be aware. The main purpose of this project is to aware the public about the Covid-19 cases. This software is capable of displaying information about active, confirm, death, recover and total cases to end user.

2.2 User Characteristics

The system provides different types of services to the users. The user can see active, confirm, death, recover and total cases in the application. All the data is fetched through an Restful-

API.

2.3 Operating Environment

The product will be operating in windows environment. The Covid Tracker is an application and shall operate in all famous android mobiles, for a model we are taking Samsung and OnePlus mobiles. Also it will be compatible with the 4.0 android versions. Most of the features will be compatible with the android version 7.0 or higher version. The only requirement to use this product would be the internet connection. The hardware configuration include Internal storage: 20MB,Ram=1GB

2.4 Assumptions and Dependencies

The assumptions are:-

- The coding should be error free
- The system should be user-friendly so that it is easy to use for the users
- The information of all users, books and libraries must be stored in a database that is accessible by the website
- The system should have more storage capacity and provide fast access to the database
- The system should provide search facility and support quick transactions
- The Library System is running 24 hours a day
- Users must have their correct usernames and passwords to enter into their online accounts and do actions

The dependencies are:-

- The specific hardware and software due to which the product will be run
- On the basis of listing requirements and specification the project will be developed and run
- The end users (admin) should have proper understanding of the product
- The system should have the general report stored
- The information of all the users must be stored in a database that is accessible by the Library System
- Any update regarding the book from the library is to be recorded to the database and the data entered should be correct

2.5 Specific Requirements

This software package is developed using java(android) as front end.

Operating System: Android

Language: Java Runtime Environment, Net beans 7.0.1 (front end)

2.6 Hardware Requirements

Processor: Pentium(R) Dual-core CPU

Internal storage: 20MB

RAM: 1GB or more

2.7 Data Requirement

The inputs consist of the query to the database and the output consists of the solutions for the query. The output also includes the user receiving the details of their accounts. In this project the inputs will be the queries as fired by the users selecting country. Now the output will be visible when the user requests the server to get details of the country .

2.8 Design Constraints

Every user can simply install application and search his desired countries.

3. External Interface Requirement

3.1 GUI (Graphical User Interface)

The software provides good graphical interface for the user can operate on the system, performing the required task such as search the country.

Login Interface:-

User can simply install application and there is no login required.

Search:-

The user can search the country for the relevant countries to view their Covid cases.

4. Other Non-Functional Requirements

4.1 Performance Requirements

The user can simply install android application and he can watch the Covid cases of the particular countries.

4.2 Safety Requirements

The database may get crashed at any certain time due to virus or operating system failure. Therefore, it is required to take the database backup so that the database is not lost. Proper UPS/inverter facility should be there in case of power supply failure.

4.3 Security Requirements

- System will use secured database
- Normal users can just read information but they cannot edit or modify anything except their personal and some other information.
- System will have different types of users and every user has access constraints
- Proper user authentication should be provided
- No one should be able to hack users' password

- There should be separate accounts for admin and members such that no member can access the database and only admin has the rights to update the database.

4.4 Requirement Attributes

- There may be multiple admins creating the project, all of them will have the right to create changes to the system. But the members or other users cannot do changes
- The project should be open source
- The Quality of the database is maintained in such a way so that it can be very user friendly to all the users of the database
- The user be able to easily download and install the system

4.5 Software Quality Attributes

- **Maintainability:** There will be no maintained requirement for the software. The database is provided by the end user and therefore is maintained by this user.
- **Portability:** The system is developed for secured purpose, so it is can't be portable.
- **Availability:** This system will available only until the system on which it is install, is running.

CODE:

Activity_main.xml:

```
package com.dds.cotracker;

import androidx.appcompat.app.AppCompatActivity;
import androidx.recyclerview.widget.RecyclerView;

import android.content.Intent;
import android.os.Bundle;
import android.view.View;
import android.widget.TextView;
import android.widget.Toast;

import com.dds.cotracker.api.ApiUtility;
import com.dds.cotracker.api.ContryData;

import org.eazegraph.lib.charts.PieChart;
import org.eazegraph.lib.models.PieModel;

import java.text.DateFormat;
import java.text.NumberFormat;
import java.text.SimpleDateFormat;
import java.util.ArrayList;
import java.util.Calendar;
import java.util.List;

import retrofit2.Call;
import retrofit2.Callback;
import retrofit2.Response;

public class MainActivity extends AppCompatActivity {
    private TextView totalConfirem, totalDeath, totalActive, totalTests, totalRecoverd;
    private TextView todayConfim, todayRecoverd, todayDeath, date;
    private PieChart pieChart;

    private List<ContryData> list;
    String country = "India";

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        list = new ArrayList<>();

        if (getIntent().getStringExtra("country") != null)
```



```

        country = getIntent().getStringExtra("country");

        init();
        TextView cname = findViewById(R.id.seenName);
        cname.setText(country);
        cname.setOnClickListener(v ->
            startActivity(new Intent(MainActivity.this, ContryActivity.class)));

        ApiUtility.getApiInterface().getcountryData()
            .enqueue(new Callback<List<ContryData>>() {
                @Override
                public void onResponse(Call<List<ContryData>> call,
                    Response<List<ContryData>> response) {
                    list.addAll(response.body());

                    for (int i = 0; i < list.size(); i++) {
                        if (list.get(i).getCountry().equals((country))) {
                            int confirm = Integer.parseInt(list.get(i).getCases());
                            int active = Integer.parseInt(list.get(i).getActive());
                            int recovered = Integer.parseInt(list.get(i).getRecovered());
                            int death = Integer.parseInt(list.get(i).getDeaths());

                            totalActive.setText(NumberFormat.getInstance().format(confirm));
                            todayConfin.setText(NumberFormat.getInstance().format(active));
                            totalRecoverd.setText(NumberFormat.getInstance().format(recovered));
                            totalDeath.setText(NumberFormat.getInstance().format(death));

                            todayDeath.setText(NumberFormat.getInstance().format(Integer.parseInt(list.get(i).getTodayDeaths())));

                            todayConfin.setText(NumberFormat.getInstance().format(Integer.parseInt(list.get(i).getTodayCases())));

                            todayRecoverd.setText(NumberFormat.getInstance().format(Integer.parseInt(list.get(i).getTodayRecovered())));

                            totalTests.setText(NumberFormat.getInstance().format(Integer.parseInt(list.get(i).getTests())));

                            setText(list.get(i).getUpdated());

                            pieChart.addPieSlice(new PieModel("Confirm", confirm,
                                getResources().getColor(R.color.yellow)));
                            pieChart.addPieSlice(new PieModel("Active", active,
                                getResources().getColor(R.color.blue_pie)));
                            pieChart.addPieSlice(new PieModel("Recovered", recovered,
                                getResources().getColor(R.color.green_pie)));
                            pieChart.addPieSlice(new PieModel("Death", death,
                                getResources().getColor(R.color.red_pie)));

```

```

        pieChart.startAnimation();
    }
}

@Override
public void onFailure(Call<List<ContryData>> call, Throwable t) {
    Toast.makeText(MainActivity.this, "Error :" + t.getMessage(),
        Toast.LENGTH_SHORT).show();
}
});
}

private void setText(String updated) {
    DateFormat format = new SimpleDateFormat("MMM dd, yyyy");

    long milisecond = Long.parseLong(updated);
    Calendar calendar = Calendar.getInstance();
    calendar.setTimeInMillis(milisecond);
    date.setText("Updated at " + format.format(calendar.getTime()));
}

private void init() {
    totalConfirem = findViewById(R.id.TotalConfirm);
    totalActive = findViewById(R.id.TotalActive);
    totalDeath = findViewById(R.id.TotalDeath);
    totalTests = findViewById(R.id.Totaltest);
    totalRecoverd = findViewById(R.id.Totalrecoverd);
    todayConfim = findViewById(R.id.TodayConfir);
    todayRecoverd = findViewById(R.id.Toadyrecovr);
    todayDeath = findViewById(R.id.TodayDeath);
    pieChart = findViewById(R.id.piechart);
    date = findViewById(R.id.date);
}
}

```

Activity_main.xml:

```

<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"

```

```
android:layout_height="match_parent"
android:orientation="vertical"
tools:context=".MainActivity">
```

```
<RelativeLayout
    android:layout_width="match_parent"
    android:layout_height="320dp"
    android:background="@color/color_primery">
```

```
<ImageView
    android:layout_width="200dp"
    android:layout_height="200dp"
    android:layout_marginLeft="-60dp"
    android:src="@drawable/ic_virus"
    android:layout_alignParentBottom="true"/>
```

```
<ImageView
    android:layout_width="100dp"
    android:layout_height="100dp"
    android:layout_alignParentEnd="true"
    android:id="@+id/virus1"
    android:src="@drawable/ic_virus"
    android:layout_alignParentRight="true" />
```

```
<ImageView
    android:layout_width="50dp"
    android:layout_height="50dp"
    android:src="@drawable/ic_virus"
    android:layout_marginTop="50dp"
    android:layout_alignParentTop="true"
    android:layout_toStartOf="@+id/virus1"
    android:layout_marginRight="10dp"
    android:layout_toLeftOf="@+id/virus1" />
```

```
<LinearLayout
    android:layout_width="wrap_content"
    android:layout_alignParentTop="true"
    android:layout_alignParentStart="true"
    android:layout_marginTop="10dp"
    android:layout_marginStart="50dp"
    android:layout_height="wrap_content"
    android:orientation="vertical"
    android:layout_alignParentLeft="true"
    android:layout_marginLeft="10dp">
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:textSize="@dimen/textsize"
        android:text="@string/app_name"
```

```

        android:textColor="@color/white"
        android:fontFamily="@string/regular"/>
<TextView
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:textSize="@dimen/titlesize3"
    android:text="India"
    android:id="@+id/seenName"
    android:drawableRight="@drawable/ic_drop"
    android:drawablePadding="10dp"
    android:layout_marginTop="7dp"
    android:textColor="@color/white"
    android:fontFamily="@string/bold"/>
<TextView
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:id="@+id/date"
    android:textSize="@dimen/textsize0"
    android:text="Updated at May 02,2020"
    android:layout_marginTop="5dp"
    android:textColor="@color/white"
    android:fontFamily="@string/regular"/>

</LinearLayout>
<LinearLayout
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginEnd="12dp"
    android:orientation="vertical"
    android:layout_alignParentBottom="true"
    android:layout_marginBottom="12dp"
    android:layout_alignParentEnd="true"
    android:layout_alignParentRight="true"
    android:layout_marginRight="12dp">
    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:orientation="horizontal">
        <LinearLayout
            android:layout_width="wrap_content"
            android:layout_height="match_parent"
            android:gravity="center_vertical"
            android:paddingHorizontal="12dp"
            android:layout_marginEnd="5dp"
            android:orientation="vertical"
            android:layout_marginRight="10dp">
            <LinearLayout
                android:layout_width="wrap_content"
                android:layout_height="wrap_content"
                android:orientation="horizontal"

```

```

        android:gravity="center_vertical">
    <View
        android:layout_width="15dp"
        android:layout_height="15dp"
        android:background="@color/yellow"/>
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:textSize="@dimen/textsize"
        android:layout_marginStart="5dp"
        android:text="Confirm"
        android:textColor="@color/white"
        android:fontFamily="@string/regular"
        android:layout_marginLeft="5dp" />

</LinearLayout>
<LinearLayout
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:orientation="horizontal"
    android:gravity="center">
    <View
        android:layout_width="15dp"
        android:layout_height="15dp"
        android:background="@color/blue_pie"/>
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:textSize="@dimen/textsize"
        android:layout_marginStart="5dp"
        android:text="Active"
        android:textColor="@color/white"
        android:fontFamily="@string/regular"
        android:layout_marginLeft="5dp" />

</LinearLayout>
<LinearLayout
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:orientation="horizontal"
    android:gravity="center">
    <View
        android:layout_width="15dp"
        android:layout_height="15dp"
        android:background="@color/green_pie"/>
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:textSize="@dimen/textsize"
        android:layout_marginStart="5dp"

```

```
        android:text="Recoverd"
        android:textColor="@color/white"
        android:fontFamily="@string/regular"
        android:layout_marginLeft="5dp" />
```

```
</LinearLayout>
```

```
<LinearLayout
```

```
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:orientation="horizontal"
    android:gravity="center">
```

```
<View
```

```
    android:layout_width="15dp"
    android:layout_height="15dp"
    android:background="@color/red_pie"/>
```

```
<TextView
```

```
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:textSize="@dimen/textsize"
    android:layout_marginStart="5dp"
    android:text="Death"
    android:textColor="@color/white"
    android:fontFamily="@string/regular"
    android:layout_marginLeft="5dp" />
```

```
</LinearLayout>
```

```
</LinearLayout>
```

```
<org.eazegraph.lib.charts.PieChart
```

```
    android:id="@+id/piechart"
    android:layout_width="120dp"
    android:layout_height="120dp"
    android:padding="8dp"
    app:egInnerPaddingColor="@color/color_primery"
    app:egLegendTextSize="0sp"
    app:egUsePieRotation="true"
    app:egLegendHeight="0dp"
    app:egValueTextSize="0sp"/>
```

```
</LinearLayout>
```

```
</LinearLayout>
```

```
</RelativeLayout>
```

```
<androidx.core.widget.NestedScrollView
```

```
    android:layout_width="match_parent"
    android:layout_height="wrap_content">
```

```
<GridLayout
```

```
    android:layout_width="match_parent"
```

```

android:layout_height="wrap_content"
android:layout_marginTop="30dp"
android:paddingHorizontal="0dp"
android:layout_marginBottom="10dp"
android:columnCount="2">

<com.google.android.material.card.MaterialCardView
    android:layout_height="wrap_content"
    android:layout_width="@dimen/cardwidth"
    android:padding="12dp"
    android:layout_gravity="center"
    android:layout_columnWeight="1"
    app:strokeColor="@color/color_primery"
    app:strokeWidth="1dp">
    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:layout_margin="18dp"
        android:orientation="vertical">

        <LinearLayout
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:orientation="horizontal"
            android:gravity="center">
            <View
                android:layout_width="15dp"
                android:layout_height="15dp"
                android:background="@color/yellow"/>
            <TextView
                android:layout_width="wrap_content"
                android:layout_height="wrap_content"
                android:textSize="@dimen/textsize"
                android:layout_marginStart="10dp"
                android:text="Confirm"
                android:textColor="@color/black"
                android:fontFamily="@string/regular"
                android:layout_marginLeft="5dp" />

        </LinearLayout>
        <TextView
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:id="@+id/TotalConfirm"

            android:textSize="@dimen/titlesize"
            android:text="55,656"
            android:textColor="@color/black"
            android:fontFamily="@string/bold"
            android:layout_marginLeft="5dp" />

```

```
<TextView
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:id="@+id/TodayConfir"
    android:textSize="@dimen/textsize"
    android:text="( +32)"
    android:textColor="@color/black"
    android:fontFamily="@string/regular"
    android:layout_marginLeft="5dp" />
```

```
</LinearLayout>
```

```
</com.google.android.material.card.MaterialCardView>
<com.google.android.material.card.MaterialCardView
    android:layout_height="wrap_content"
    android:layout_width="@dimen/cardwidth"
    android:padding="12dp"
    android:layout_gravity="center"
    android:layout_columnWeight="1"
    app:strokeColor="@color/color_primery"
    app:strokeWidth="1dp">
    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:layout_margin="18dp"
        android:orientation="vertical">
```

```
    <LinearLayout
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:orientation="horizontal"
        android:gravity="center">
        <View
            android:layout_width="15dp"
            android:layout_height="15dp"
            android:background="@color/blue_pie"/>
        <TextView
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:textSize="@dimen/textsize"
            android:layout_marginStart="10dp"
            android:text="Active"
            android:textColor="@color/black"
            android:fontFamily="@string/regular"
            android:layout_marginLeft="5dp" />
```

```
</LinearLayout>
```

```
<TextView
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
```



```

        android:textSize="@dimen/titlesize"
        android:id="@+id/TotalActive"
        android:text="55656"
        android:textColor="@color/black"
        android:fontFamily="@string/bold"
        android:layout_marginLeft="5dp" />
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:textSize="@dimen/textsize"
        android:text=" "
        android:textColor="@color/black"
        android:fontFamily="@string/regular"
        android:layout_marginLeft="5dp" />

```

```

</LinearLayout>

```

```

</com.google.android.material.card.MaterialCardView>
<com.google.android.material.card.MaterialCardView
    android:layout_height="wrap_content"
    android:layout_width="@dimen/cardwidth"
    android:padding="12dp"
    android:layout_gravity="center"
    android:layout_columnWeight="1"
    android:layout_marginTop="12dp"
    app:strokeColor="@color/color_primery"
    app:strokeWidth="1dp">
    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:layout_margin="18dp"
        android:orientation="vertical">

```

```

    <LinearLayout
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:orientation="horizontal"
        android:gravity="center">
        <View
            android:layout_width="15dp"
            android:layout_height="15dp"
            android:background="@color/green_pie"/>
        <TextView
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:textSize="@dimen/textsize"
            android:layout_marginStart="10dp"
            android:text="Recovered"
            android:textColor="@color/black"
            android:fontFamily="@string/regular"

```

```
        android:layout_marginLeft="5dp" />
```

```
    </LinearLayout>
```

```
    <TextView
```

```
        android:layout_width="wrap_content"
```

```
        android:id="@+id/Totalrecoverd"
```

```
        android:layout_height="wrap_content"
```

```
        android:textSize="@dimen/titlesize"
```

```
        android:text="55656"
```

```
        android:textColor="@color/black"
```

```
        android:fontFamily="@string/bold"
```

```
        android:layout_marginLeft="5dp" />
```

```
    <TextView
```

```
        android:layout_width="wrap_content"
```

```
        android:layout_height="wrap_content"
```

```
        android:textSize="@dimen/textsize"
```

```
        android:text="( +32)"
```

```
        android:textColor="@color/black"
```

```
        android:id="@+id/Toadyrecovr"
```

```
        android:fontFamily="@string/regular"
```

```
        android:layout_marginLeft="5dp" />
```

```
</LinearLayout>
```

```
</com.google.android.material.card.MaterialCardView>
```

```
<com.google.android.material.card.MaterialCardView
```

```
    android:layout_height="wrap_content"
```

```
    android:layout_width="@dimen/cardwidth"
```

```
    android:padding="12dp"
```

```
    android:layout_gravity="center"
```

```
    android:layout_columnWeight="1"
```

```
    android:layout_marginTop="12dp"
```

```
    app:strokeColor="@color/color_primery"
```

```
    app:strokeWidth="1dp">
```

```
    <LinearLayout
```

```
        android:layout_width="match_parent"
```

```
        android:layout_height="match_parent"
```

```
        android:layout_margin="18dp"
```

```
        android:orientation="vertical">
```

```
    <LinearLayout
```

```
        android:layout_width="wrap_content"
```

```
        android:layout_height="wrap_content"
```

```
        android:orientation="horizontal"
```

```
        android:gravity="center">
```

```
    <View
```

```
        android:layout_width="15dp"
```

```
        android:layout_height="15dp"
```

```
        android:background="@color/red_pie"/>
```

```
    <TextView
```

```
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:textSize="@dimen/textsize"
        android:layout_marginStart="10dp"
        android:text="Death"
        android:textColor="@color/black"
        android:fontFamily="@string/regular"
        android:layout_marginLeft="5dp" />
```

```
</LinearLayout>
```

```
<TextView
```

```
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:textSize="@dimen/titlesize"
    android:text="55656"
    android:textColor="@color/black"
    android:id="@+id/TotalDeath"
    android:fontFamily="@string/bold"
    android:layout_marginLeft="5dp" />
```

```
<TextView
```

```
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:textSize="@dimen/textsize"
    android:text="( +32)"
    android:id="@+id/TodayDeath"
    android:textColor="@color/black"
    android:fontFamily="@string/regular"
    android:layout_marginLeft="5dp" />
```

```
</LinearLayout>
```

```
</com.google.android.material.card.MaterialCardView>
```

```
<com.google.android.material.card.MaterialCardView
```

```
    android:layout_height="wrap_content"
    android:layout_width="@dimen/cardwidth"
    android:padding="12dp"
    android:layout_gravity="center"
    android:layout_marginTop="12dp"
    android:layout_columnWeight="1"
    app:strokeColor="@color/color_primery"
    app:strokeWidth="1dp">
```

```
<LinearLayout
```

```
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:layout_margin="18dp"
    android:orientation="vertical">
```

```
<LinearLayout
```

```
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
```

```
android:orientation="horizontal"
android:gravity="center">
```

```
<TextView
    android:layout_width="wrap_content"
    android:layout_height="match_parent"
    android:layout_marginStart="10dp"
    android:layout_marginLeft="5dp"
    android:fontFamily="@string/regular"
    android:text="Test"
    android:textColor="@color/black"
    android:textSize="@dimen/textsize" />
```

```
</LinearLayout>
```

```
<TextView
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:textSize="@dimen/titlesize"
    android:text="55656"
    android:id="@+id/Totaltest"
    android:textColor="@color/black"
    android:fontFamily="@string/bold"
    android:layout_marginLeft="5dp" />
```

```
<TextView
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:textSize="@dimen/textsize"
    android:text=""
```

```
    android:textColor="@color/black"
    android:fontFamily="@string/regular"
    android:layout_marginLeft="5dp" />
```

```
</LinearLayout>
```

```
</com.google.android.material.card.MaterialCardView>
```

```
</GridLayout>
```

```
</androidx.core.widget.NestedScrollView>
```

```
</LinearLayout>
```

ContryActivity.java:

```
package com.dds.cotracker;

import androidx.appcompat.app.AppCompatActivity;
import androidx.recyclerview.widget.LinearLayoutManager;
import androidx.recyclerview.widget.RecyclerView;

import android.app.ProgressDialog;
import android.os.Bundle;
import android.text.Editable;
import android.text.TextWatcher;
import android.widget.EdgeEffect;
import android.widget.EditText;
import android.widget.Toast;

import com.dds.cotracker.api.ApiUtility;
import com.dds.cotracker.api.ContryData;

import java.util.ArrayList;
import java.util.List;

import retrofit2.Call;
import retrofit2.Callback;
import retrofit2.Response;

public class ContryActivity extends AppCompatActivity {
    private RecyclerView recyclerView;
    private List<ContryData> list;
    private ProgressDialog pd;
    private ContryAdapter adapter;
    private EditText Serchbar;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_contry);

        recyclerView = findViewById(R.id.contryrecy);
        Serchbar = findViewById(R.id.serchContry);
        list = new ArrayList<>();
        recyclerView.setLayoutManager(new LinearLayoutManager(this));
        recyclerView.setHasFixedSize(true);

        adapter = new ContryAdapter(this,list);
        recyclerView.setAdapter(adapter);
    }
}
```

```

pd = new ProgressDialog(this);
pd.setMessage("Loading...");
pd.setCancelable(false);
pd.show();

ApiUtility.getApiInterface().getcountryData().enqueue(new
Callback<List<ContryData>>() {
    @Override
    public void onResponse(Call<List<ContryData>> call, Response<List<ContryData>>
response) {
        list.addAll(response.body());
        adapter.notifyDataSetChanged();
        pd.dismiss();
    }

    @Override
    public void onFailure(Call<List<ContryData>> call, Throwable t) {
        Toast.makeText(ContryActivity.this, ""+t.getMessage(),
Toast.LENGTH_SHORT).show();
    }
});
Serchbar.addTextChangedListener(new TextWatcher() {
    @Override
    public void beforeTextChanged(CharSequence s, int start, int count, int after) {

    }

    @Override
    public void onTextChanged(CharSequence s, int start, int before, int count) {

    }

    @Override
    public void afterTextChanged(Editable s) {
        filter(s.toString());
    }
});
}

private void filter(String toString) {
    List<ContryData> filterlist = new ArrayList<>();
    for(ContryData items : list){
        if(items.getCountry().toLowerCase().contains(toString.toLowerCase())){
            filterlist.add(items);

        }
    }
}

```

```

        adapter.filterlist(filterlist);
    }
}

```

Activity_contry.xml:

```

<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:orientation="vertical"
    android:layout_height="match_parent"
    tools:context=".ContryActivity">
    <EditText
        android:layout_width="match_parent"
        android:layout_height="40dp"
        android:hint="Search here"
        android:imeOptions="actionSearch"
        android:drawablePadding="4dp"
        android:id="@+id/serchContry"
        android:padding="8dp"
        android:background="@drawable/border"
        android:drawableLeft="@drawable/ic_search"
        android:maxLines="1"
    />
    <RelativeLayout
        android:layout_width="match_parent"
        android:layout_marginVertical="12dp"
        android:layout_height="wrap_content"
    >
        <TextView
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_alignParentStart="true"
            android:text="Country"
            android:layout_marginStart="12dp"
            android:textSize="@dimen/textsize"
            android:textColor="@color/black"
            android:fontFamily="@string/bold"
            android:layout_alignParentLeft="true"
            android:layout_marginLeft="12dp" />
        <TextView
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_alignParentEnd="true"
            android:text="Total cases"
            android:textColor="@color/black"
            android:textSize="@dimen/textsize"
            android:layout_marginEnd="12dp"

```

```

        android:fontFamily="@string/bold"
        android:layout_alignParentLeft="true"
        android:layout_marginRight="12dp"
        android:layout_alignParentRight="true" />
</RelativeLayout>
<androidx.recyclerview.widget.RecyclerView
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:id="@+id/contryrecy"
    tools:listitem="@layout/contryitemcayout"/>
</LinearLayout>

```

Spalsh.java:

```

package com.dds.cotracker;

import androidx.appcompat.app.AppCompatActivity;

import android.content.Intent;
import android.os.Bundle;
import android.os.Handler;
import android.view.View;
import android.widget.ImageView;

import com.github.ybq.android.spinkit.SpinKitView;

public class spalsh extends AppCompatActivity {
    private SpinKitView spinKitView;
    private ImageView imageView;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_spalsh);
        spinKitView = findViewById(R.id.spin_kit);

        new Handler().postDelayed(new Runnable() {
            @Override
            public void run() {
                Intent i = new Intent(spalsh.this,MainActivity.class);
                startActivity(i);
                finish();
            }
        },4000);
    }
}

```


Activity_spalsh.xml:

```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:background="@color/color_primery"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".spalsh">

    <ImageView
        android:layout_width="100dp"
        android:layout_height="100dp"
        android:layout_margin="25dp"
        android:layout_alignParentEnd="true"
        android:id="@+id/virus1"
        android:src="@drawable/ic_virus"
        android:layout_alignParentRight="true" />

    <ImageView
        android:layout_width="180dp"
        android:layout_height="150dp"
        android:layout_marginTop="55dp"
        android:src="@drawable/ic_virus" />

    <TextView
        android:id="@+id/app"
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:layout_gravity="center_horizontal"
        android:layout_marginTop="280dp"
        android:fontFamily="@string/bold"
        android:gravity="center_horizontal"
        android:text="@string/app_name"
        android:textColor="@color/white"
        android:textSize="@dimen/titlesize2"/>

    <com.github.ybq.android.spinkit.SpinKitView
        android:id="@+id/spin_kit"
        style="@style/SpinKitView.Large.DoubleBounce"
        android:layout_width="wrap_content"
```

```
    android:layout_height="wrap_content"
    android:layout_centerInParent="true"
    app:SpinKit_Color="@color/red" />
```

</RelativeLayout>

countryitemlayout.xml

```
<?xml version="1.0" encoding="utf-8"?>
<com.google.android.material.card.MaterialCardView
xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:elevation="3dp"
    android:layout_marginTop="8dp"
    android:layout_marginHorizontal="8dp"
    android:layout_height="wrap_content">

    <RelativeLayout
        android:layout_width="match_parent"
        android:layout_marginVertical="7dp"
        android:layout_marginHorizontal="12dp"
        android:layout_height="wrap_content">

        <TextView
            android:layout_width="40dp"
            android:layout_height="wrap_content"
            android:layout_alignParentStart="true"
            android:text="123"
            android:layout_marginStart="12dp"
            android:id="@+id/sno"
            android:textSize="@dimen/textsize"
            android:textColor="@color/black"
            android:fontFamily="@string/bold"
            android:layout_alignParentLeft="true"
            android:layout_centerVertical="true"
            android:layout_marginLeft="12dp" />

        <ImageView
            android:layout_width="70dp"
            android:layout_height="45dp"
            android:layout_centerVertical="true"
            android:layout_toEndOf="@+id/sno"
            android:id="@+id/contryflag"
            android:layout_toRightOf="@+id/sno" />

        <TextView
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Imdia"
            android:layout_toEndOf="@id/contryflag"
            android:layout_marginStart="12dp"
```

```
    android:id="@+id/coname"  
    android:textSize="@dimen/textsize"  
    android:textColor="@color/black"  
    android:layout_centerVertical="true"  
    android:fontFamily="@string/bold"  
    android:layout_toRightOf="@id/contryflag"  
    android:layout_marginLeft="12dp" />
```

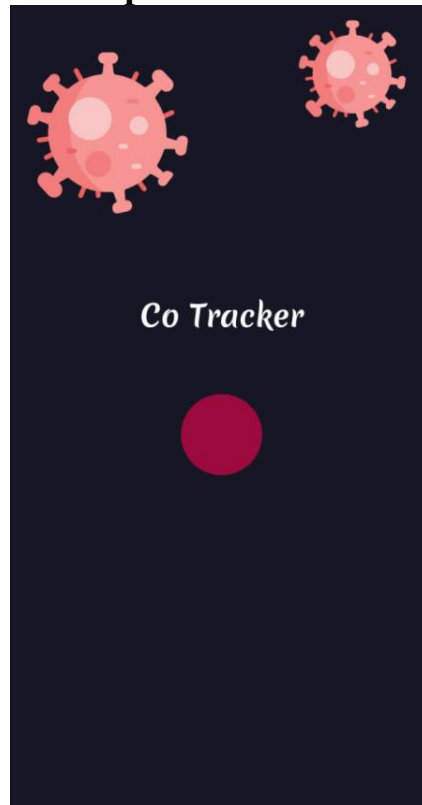
```
<TextView  
    android:layout_width="wrap_content"  
    android:layout_height="wrap_content"  
    android:text="2454545"  
    android:id="@+id/ContryCase"  
    android:textSize="@dimen/textsize"  
    android:textColor="@color/black"  
    android:layout_alignParentEnd="true"  
    android:layout_centerVertical="true"  
    android:fontFamily="@string/bold"  
    android:layout_alignParentRight="true" />
```

```
</RelativeLayout>
```

```
</com.google.android.material.card.MaterialCardView>
```

Outputs (Screen-Shots):

Splash Screen:



HomeScreen:



Search Country Screen:

 Search here			
Country		Total cases	
1	 Afghanistan	1,15,751	
2	 Albania	1,32,512	
3	 Algeria	1,38,465	
4	 Andorra	13,882	
5	 Angola	38,556	
6	 Anguilla	109	
7	 Antigua and Barbuda	1,263	
8	 Argentina	44,05,247	
9	 Armenia	2,24,851	
10	 Aruba	11,131	